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Consolation from Life

**A study of Emanuel Rádl's works in biology
and his *Consolation from Philosophy***

Summary of PhD thesis

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The subject of this thesis is the scientific and philosophical work of Emanuel Rádl (1873-1942), Czech biologist, philosopher, and publicly active intellectual, with focus on the first period of his work, dated before the WWI, and the last phase of his work, culminating in his last book, *Consolation from Philosophy*. The main aim of the thesis is a *historical* analysis and account; it is a contribution both to the history of biology and biological thought, and to the history of philosophy in the Czech lands in the first half of the 20th century. Emanuel Rádl's intellectual biography can also be seen as an introspective study of the intellectual life of the Czech society during some of its important and as yet insufficiently studied periods. The present thesis was written as a part of a broadly conceived research project, other results of which include:

1. The ordering and inventory of recently discovered parts of Rádl's work, which have been made available to researchers as an archive unit under the name of *Collection and Documentation Fund of Emanuel Rádl*.

2. A publication of an unabridged Czech translation of Rádl's *The History of Modern Biological Theories*, Volume I-II (Academia: Prague 2006).

The core of the doctoral thesis consists of three large chapters, which can be, to a considerable degree, treated as independent units with different goals and purposes.

Chapter II deals with the first period of Rádl's work, dating before the WWI. Defined as such, it is a first attempt at a unified analysis of this phase of Rádl's writings. Even though this period of Rádl's work has been less studied than his work between the world wars, and is often seen through the prism of his later writings, it is, nonetheless, immensely rich and no less problematic than his later writings. Already before the WWI, Rádl's proved himself to be

inherently activist, provocative, and appealing writer. His work from that time that time forms an important chapter in the history of Czech science. A research of these writings, therefore, importantly contributes not only to a deeper understanding of the inner development of his work and thought leading to the *Consolation from Philosophy*, but also to historical analysis of the scientific and intellectual milieu within the Czech society after 1900. Rádl's scientific work of this period can be broadly divided in three areas of interest: 1. Histology, comparative anatomy and morphology; 2. Physiology of sensory reactions; and 3. Theory, history, and philosophy of science. In his thoughts on biology, Rádl focuses of the relation between the *function* and the *form*, that is, between the approach adopted by comparative physiology and that of comparative morphology. These endeavours combine with a then popular search for specific logical principles of biology as an *autonomous* scientific discipline (principle of correlation), efforts at a rehabilitation of an *inner aspect* of living beings, and aims at an integrative approach of 'general biology'. Rádl's treatment of general biology takes a rather unusual form, namely that of investigating the *historicity* of thinking about life; thanks to his broadly defined plan of *The History of Biological Theories* Rádl therefore became a founder of historical research of biology. We followed the construction and conceptualisation of individual plans (1905, 1909, 1913) of this pioneering work in connection with his epistemological principle of 'realism', according to which scientific 'theories' are seen as *events* arising from internal activities of individuals encountering various intellectual traditions. The social aspect of Rádl's activities was previously documented in detail especially regarding his oscillation between a preference for an 'international' and a 'national' science and a dispute with the botanist Karel Domin about the issue of plagiarism which issued from it. This topic, which was closely related to the ethics of scientific work, had an unfavourable impact of Rádl's standing among Czech natural scientists. Finally, in this chapter we focus on Rádl's research of sensory reactions, especially phototropism, which was published in his work *Untersuchungen über den Phototropismus der Tiere* (1903). This research not only led in 1904 to Rádl's first habilitation, but also completed the early plan of all conceptual and research topics which Rádl later developed. We were able to follow his discovery of independence of optical orientation in lower animals and a general interpretation of it as an elementary (reflexive) orientation abilities of living organisms next to geo- and stereotropism from its early beginnings which took the form of experiments, to a formulation of a theory of phototropism, and all the way to a general theory of organic spatiality, which took Rádl to the very borders of 'metaphysics'. Crucial insufficiencies of the conceptual

framework, based on modern natural science, made Rádl abandon this project. His entire later work viewed in this light can then be seen as a living thought-experiment, an effort to test this conceptual framework from various angles. Rádl returns to issues connected with his basic discovery only in the last pages of his philosophical legacy, the *Consolation from Philosophy*. This has, however, required new research, which we present in two different ways in the 3rd and 4th chapter.

Chapter III summarises the problematic history of reception of Rádl's *Consolation*, and in detail investigates the genesis of *Consolation* in the immediately preceding, rather mysterious and basically still largely unknown and unresearched period of Rádl's illness. An analysis of Rádl's situation as well as the state of society at that time in general is crucial to an understanding of the consolation element of Rádl's last work. By relating various fragments of Rádl's work written during his illness to his previous activism, which peaked in the time following his organisation of a congress in 1934, we can map and reconstruct a part of Rádl's biography and contribute to an explanation of the overall plan and individual motives of his *Consolation*. Part of this genesis is also a brief outline of the problematic reception of the *Consolation* in Czech philosophy. A special part of this reception is the immediately post-war discussion in 1946-48.

Chapter IV, on the other hand, focuses on the text of the *Consolation*, and takes as its starting point an analysis of its extant manuscript. Among the key results of this section are (a) a substantial revision of the way it has been hitherto published, and (b) a proof of its authenticity based on an analysis of its particular historical construction and its final state at the moment of Rádl's death. To this purpose, we carry out a gradual and deepening analysis of the manuscript, its layers, and various insertions added by Rádl over time. A distinction between two distinct versions of the work, namely *Consolation A* (from February 1942) and *Consolation B* (from May 1942) led to another important discovery: revisions and insertions in the text were not finished, that is, the *Consolation from Philosophy* is an *unfinished torso*. For the purpose of control of the method used and a preservation of documentation outside archives, we included in *Appendix 3-5* a copy of the entire manuscript of the *Consolation*, as well as a related article *Enough on Heredity!*

The fact that the work on the *Consolation* was interrupted in the very passages that deal with Rádl's early research on phenomena related to orientation, that is, those that steered Rádl in his early career towards 'metaphysics', may be only symbolic, but it could also be seen as a deeper connecting element linking all the parts of the work we hereby present.